Owner's Guide

Autoclavable Syringe

a-dec®

85.0680.00

Warranty Information	
Serial Number	N/A
Model Number	N/A
Date Purchased	

Date of Service	Model/Description of Service	Technician's Initials

For service information contact your local authorized A-dec dealer.

Check with local codes and A.D.A. (Americans with Disabilities Act) Requirements for Installation of this product.

A-dec warrants its products and A-dec/W&H Synea handpieces against defects in material or workmanship for one year from time of delivery. All other handpiece instrumentation has a warranty period of six months. A-dec's sole obligation under the warranty is to provide parts for the repair, or at its option, to provide the replacement product (excluding labor). The buyer shall have no other remedy. (All special, incidental, and coincidental damages are excluded.) Written notice of breach of warranty must be given to A-dec within the warranty period. The warranty does not cover damage resulting from improper installation or maintenance, accident or misuse.The warranty does not cover damage resulting from the use of cleaning, disinfecting or sterilization chemicals and processes. The warranty also does not cover light bulbs. Failure to follow instructions provided in A-dec's Operation and Maintenance Instructions (Owner's Guide) may void the warranty.

NO OTHER WARRANTIES AS TO
MERCHANTABILITY OR OTHERWISE ARE MADE.

a-dec

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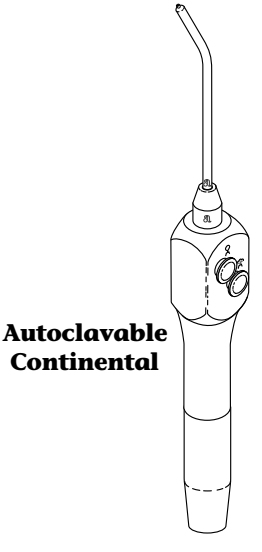
Autoclavable Syringe



Autoclavable Continental

Autoclavable Easy-Clean Syringe Head

Serial number location, service information, and warranty information are located on the inside front cover and front page.

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OPERATION

About Your New Autoclavable Syringe

Your Autoclavable Continental or Autoclavable Easy-Clean Syringe is a three-way air and water syringe featuring a patented quick disconnect autoclavable tip system.

Installation

1. Turn off the unit's master switch.
2. Purge the water and air lines by holding the syringe over a sink or basin and pressing the water and air buttons.
3. Disconnect the old syringe by turning the tubing connector nut counterclockwise.
4. Separate the syringe and tubing.
5. Connect the A-dec syringe to the tubing and turn the nut clockwise until it is finger tight.
6. Depress separately the air and water buttons to verify air and water flow.
7. Depress both the air and water buttons simultaneously to verify desired spray pattern. If a change of flow is desired, see ***Syringe Air and Water Flow Control*** *on page 8*.

Button Functions

All three syringes feature two buttons that provide three-way, modulated control of syringe water, air, and spray functions.

The button functions are indicated with internationally recognized icons for air and water *(see Figure 1)*.

Water **Air**

Figure 1. Water and Air Icons

Syringe Tip Retainer Assembly (Non-Locking)

All three syringe heads are factory equipped with a non-locking syringe tip retainer assembly. This style of syringe tip retainer (identified by a smooth exterior surface, *see Figure 2)* allows the syringe tip to be easily removed and installed. The non-locking syringe tip retainer assembly is not appropriate for use as cheek retractor because it allows the syringe tip to rotate.

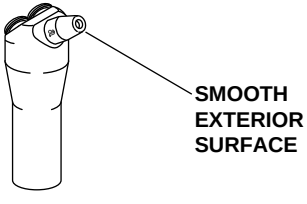

Figure 2. Syringe Tip Retainer Assembly (Non-Locking)

Optional Configurations

Locking Syringe Tip Retainer Assembly

The syringe tip may be locked in place, allowing it to be used for cheek retraction, when the locking syringe tip retainer assembly option has been ordered. Refer to page 12 for further information.

Heated Syringe Water

Warm water may be delivered through the syringe, eliminating the discomfort that can be caused by spraying cold water on sensitive tissues, when either the circulating warm water or heated syringe tubing option has been ordered. Refer to pages 15 through 17 for further information.

Quick Disconnect Syringe Terminal

The syringe head may be removed from the syringe tubing without shutting the delivery system unit off when the quick disconnect syringe terminal option has been ordered. Refer to page 17 for further information.

A-dec Syringe Tips

Warning

USE ONLY A-DEC SYRINGE TIPS.

A-dec syringe tips have been engineered and manufactured for use with A-dec syringes. **Using syringe tips manufactured by a company other than A-dec can result in syringe tip ejection.**

Your syringe is packaged with two specially designed A-dec syringe tips. These tips have three grooves and a distinguishing "O" or "I" and an A-dec "a" marking *(see Figure 3)*.

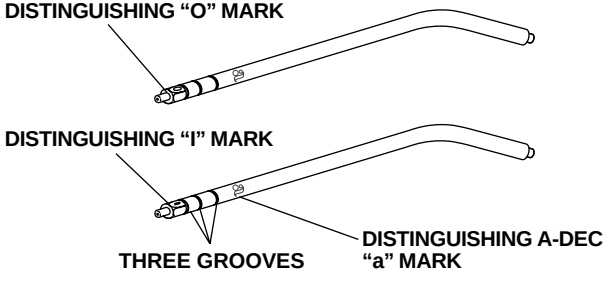

Figure 3. Specially Designed A-dec Syringe Tip

Installing an A-dec Syringe Tip

To ensure that the syringe will perform properly, it is important that you install the tip correctly.

Push the syringe tip into the syringe tip retainer assembly. As you push the tip in you will feel two "clicks" as O-rings inside the syringe tip retainer assembly slide into the grooves. *If you do not feel two "clicks" when installing the syringe tip,* ***do not use the syringe****.* The O-rings inside the syringe tip retainer assembly are damaged and may allow the syringe tip to be ejected. The syringe tip retainer assembly must be repaired prior to using the syringe.

When properly installed none of the grooves on the A-dec syringe tip are visible *(see Figure 4)*.

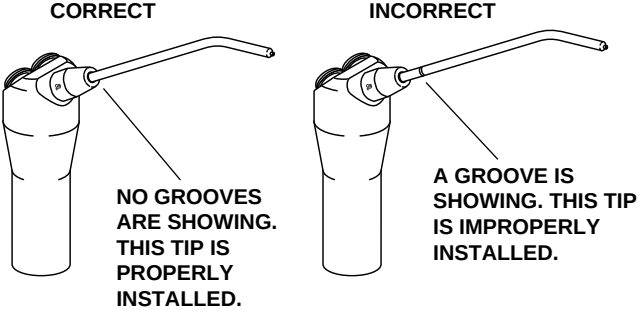
CORRECT
INCORRECT
NO GROOVES ARE SHOWING. THIS TIP IS PROPERLY INSTALLED.
A GROOVE IS SHOWING. THIS TIP IS IMPROPERLY INSTALLED.

Figure 4. Installing the A-dec syringe tip

After installing a tip, point the syringe at the floor and press the air button several times to be sure the tip is properly installed.

An improperly installed A-dec syringe tip allows water to enter the air tubing in the syringe tip.

Removing an A-dec Syringe Tip

To remove the A-dec syringe tip, pull it straight out of the syringe tip retainer assembly *(see Figure 5)*.

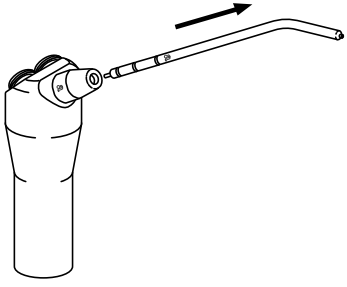

Figure 5. Removing an A-dec syringe tip

Syringe Air and Water Flow Control

Doctor's Syringe

Caution

Flow adjustment valves and screws are not intended to completely stop the air and water. Forcing the screws to turn beyond their limit will damage the flow adjustment valves.

Cascade® Delivery Systems.

Syringe air and water flow is controlled by flow control valves inside the handpiece control unit *(see Figure 6)*. To adjust the flow, turn the hex body of the flow control valve clockwise to reduce flow or counterclockwise to increase flow. Press both syringe buttons to test the spray.

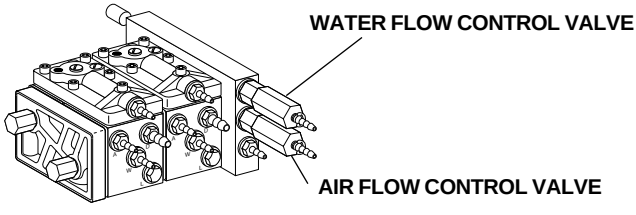

Figure 6. Flow Control Valves

Excellence®, Decade®, Mini-Trol®, and Auto-Trol® Delivery Systems.

Syringe air and water flow is controlled by flow adjusting screws in the faceplate or side of the handpiece control unit *(see Figure 7)*. To adjust the flow (with a 3/32-inch hex key), turn the adjustment screw clockwise to reduce flow or counterclockwise to increase flow. Press both syringe buttons to test the spray.

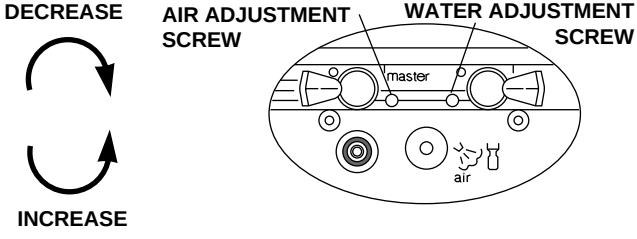

Figure 7. Flow Adjusting Screws

Solo and Older A-dec Delivery Systems

Syringe air and water flow is controlled by pinch valves *(see Figure 8)* inside the chair back or inside the handpiece control unit. To adjust the flow, turn the adjustment screw clockwise to reduce flow or counterclockwise to increase flow. Press both syringe buttons to test the spray.

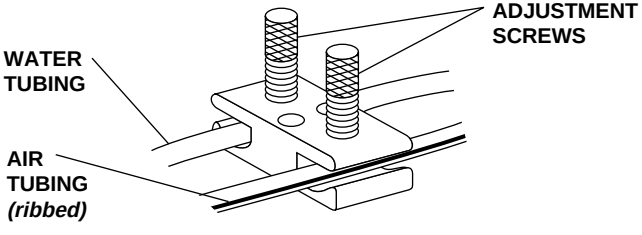

Figure 8. Pinch Valves

Assistant's Syringe

Caution

Flow adjustment valves and screws are not intended to completely stop the air and water. Forcing the screws to turn beyond their limit will damage the flow adjustment valves.

Syringe air and water flow is controlled either by pinch valves *(see Figure 9)* or a syringe block *(see Figure 10)*. These controls are located inside the post box, floor box, chair back, or inside a cabinet (depending upon the application). To adjust the flow through a pinch valve, turn the adjustment screw clockwise to reduce flow or counterclockwise to increase flow. To adjust the flow through a syringe block use a 3/32-inch hex key to turn the adjustment screw clockwise to reduce flow or counterclockwise to increase flow. Press both syringe buttons to test the spray.

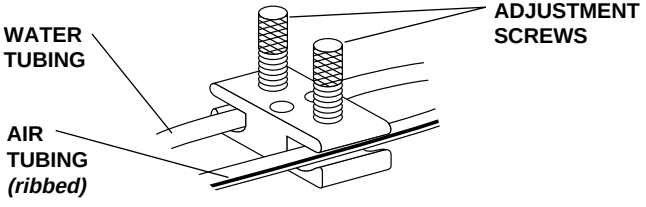

Figure 9. Pinch Valves

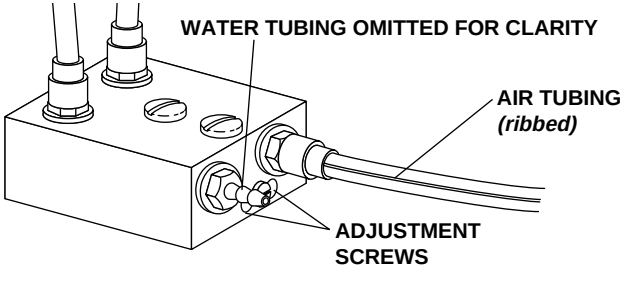

Figure 10. Syringe Block

Products List | Print | Table of Contents

Disconnecting the Syringe Head

To disconnect your syringe head from the syringe tubing, move the master on/off toggle to the **OFF** position. Use the syringe to bleed the system of air and water pressure.

Turn the syringe handle counterclockwise until the syringe separates from the handle then pull the syringe head away from the terminal.

When the syringe head is disconnected, a little water, which is left inside of the syringe head and tubing, will drip out.

OPTIONAL CONFIGURATIONS

Locking Syringe Tip Retainer Assembly

The syringe heads may be optionally equipped with a locking syringe tip retainer assembly . This style of syringe tip retainer assembly *(identified by a hex shaped exterior, see Figure 11)* functions like the standard syringe tip retainer assembly (smooth shaped exterior) but allows the retaining nut to be tightened, preventing the tip from easily rotating. The tip can then be used for cheek retraction.

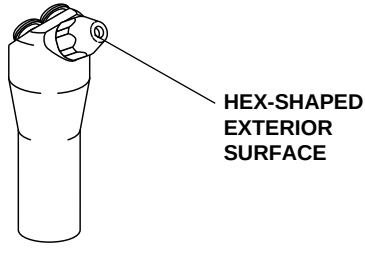

Figure 11. Locking Syringe Tip Retainer Nut

Installing an A-dec Syringe Tip

Warning

USE ONLY A-DEC SYRINGE TIPS.

A-dec syringe tips have been engineered and manufactured for use with A-dec syringes. **Using syringe tips manufactured by a company other than A-dec can result in syringe tip ejection.**

Your syringe is packaged with two specially designed A-dec syringe tips. These tips have three grooves and a distinguishing "O" or "I" and an A-dec "a"marking *(see Figure 3 on Page 5)*.

Caution

Be sure the hex portion of the syringe tip retainer assembly is loose before installing an A-dec syringe tip.

If you attempt to force the tip into the syringe tip retainer assembly, you will damage the internal collet of the retainer and make it difficult or impossible to properly install a tip, remove a tip, or use your syringe.

To ensure that the syringe will perform properly, it is important that you install an A-dec syringe tip correctly.

Push the syringe tip into the syringe tip retainer assembly. As you push the tip in, you will feel two "clicks" as O-rings inside the syringe tip retainer assembly slide into the grooves. When properly installed, none of the grooves on the A-dec syringe tip are visible *(see Figure 12)*.

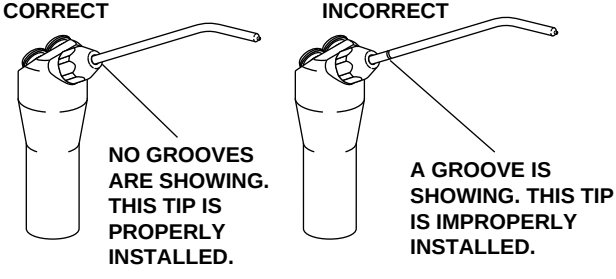
CORRECT
INCORRECT
NO GROOVES ARE SHOWING. THIS TIP IS PROPERLY INSTALLED.
A GROOVE IS SHOWING. THIS TIP IS IMPROPERLY INSTALLED.

Figure 12. Installing an A-dec syringe tip

After installing a tip, point the syringe at the floor and press the air button several times to be sure the tip is properly installed.

An improperly installed A-dec syringe tip allows water to enter the air tubing in the syringe tip.

Restricting Tip Rotation

Your syringe tip rotates to spray in different directions. However, if you use your syringe tip for cheek retraction and you have the hex-shaped syringe tip retainer nut, you may prefer to adjust the tip so that it does not rotate easily.

Caution

Tighten the syringe tip retainer assembly nut by hand or with the plastic wrench provided.

Overtightening the nut will make it more difficult to remove the syringe tip later—use only as much force as needed to keep the syringe tip from rotating easily.

Never tighten the syringe tip retainer assembly nut when a syringe tip is improperly installed. The internal collet will be crushed making removal of the tip difficult and proper installation of a new tip impossible.

To adjust the installed syringe tip so that it does not rotate easily, simply tighten the hex portion of the syringe tip retainer assembly *(see Figure 13)*. Tighten only until you cannot easily rotate the tip.

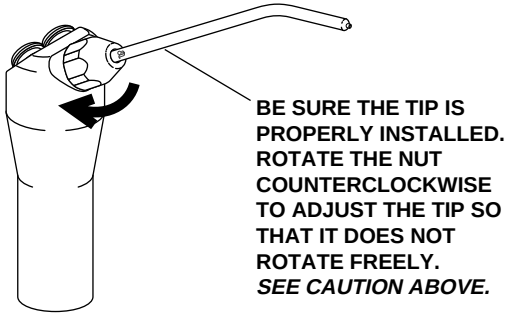
BE SURE THE TIP IS PROPERLY INSTALLED. ROTATE THE NUT COUNTERCLOCKWISE TO ADJUST THE TIP SO THAT IT DOES NOT ROTATE FREELY.
SEE CAUTION ABOVE.

Figure 13. Eliminating Tip Rotation

Removing an A-dec Syringe Tip

To remove the A-dec syringe tip, turn the tip retainer nut counterclockwise until it turns easily, no more than a 1/4 turn. Then pull the A-dec tip straight out of the syringe tip retainer *(see Figure 14)*.

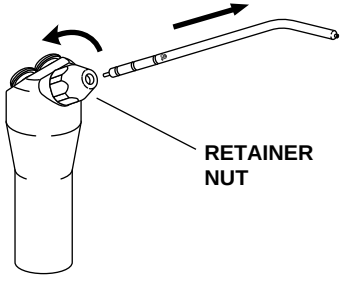

Figure 14. Removing the A-dec Tip

Heated Syringe Tubing with In-line Low Voltage Water Heater

Water temperature at the syringe is controlled by the use of an in-line water heater *(see Figure 15)* and resistance wiring in the syringe tubing.

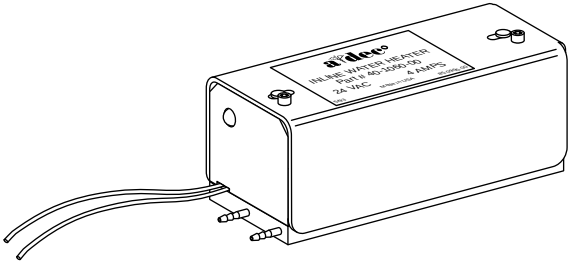

Figure 15. In-line Low Voltage Water Heater

To determine if you have this type of warm water syringe, look for the in-line water heater *(see Figure 15 on page 15)* in the control head or in the post box. Additionally, the syringe tubing will be warm to the touch after the unit has been turned on for a few minutes.

The water temperature is not adjustable. The water should feel lukewarm on the back of your hand. If the water temperature is too warm or cold, contact your factory authorized A-dec dealer.

Quick Disconnect Syringe Terminal

Your A-dec syringe tubing may be optionally equipped with a quick disconnect syringe terminal *(see Figure 16)*. This terminal allows you to remove the syringe head without shutting the delivery system off.

To remove the syringe head, turn the syringe handle counterclockwise until the syringe separates from the handle then pull the syringe head away from the terminal.

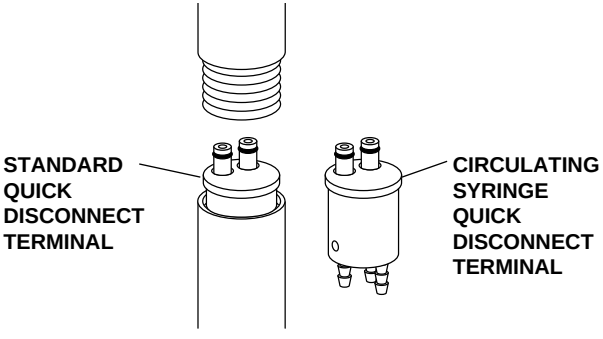

Figure 16. Quick Disconnect Syringe Terminal

ASEPSIS

Syringe and Tip Asepsis

All syringe tips are considered critical items and must be heat sterilized between patients. The syringe and syringe tips have been designed to be heat sterilized.

Warning

When cleaning syringe tips, ***do not use*** cleaning solutions which contain ammonia or amines.

These chemicals are harmful to the brass syringe tips and can cause possible damage and tip ejection.

Pre-Cleaning

1. Remove the syringe head and tip from the syringe terminal.
2. If the threads on the syringe head appear dirty, gently brush the threads free of debris using a nylon or brass bristle brush.

Note

To ease the removal and assembly of the syringe head and the syringe nut, periodically check the threads on the syringe head for accumulated debris.

3. Remove the syringe tip for sterilization.

4. Immerse the tip in an appropriate holding solution until ready for ultrasonic cleaning.
5. Clean the syringe tips ultrasonically. Follow the instructions provided by the manufacturer of your ultrasonic cleaning equipment.
6. Purge all cleaning agents from the syringe and syringe tips by vertically holding under running water.

Sterilization

1. Rinse the syringe and syringe tips in clear water.
2. Use a dispensing bottle to flush isopropyl alcohol or Harvey's Vapo-Steril® through the tips.
3. Sterilize the syringe tips and/or syringe:

   Sterilize SYRINGE TIPS using the methods of steam autoclave, dry heat, or chemical vapor ***(275°F [135°C] maximum temperature)***.

   Sterilize the SYRINGE using the methods of steam autoclave or chemical vapor ***(275°F [135°C] maximum temperature).***

Caution

Sterilizing equipment at higher temperatures will reduce the seal life of the O-rings.

MAINTENANCE

General Information

Your syringe is designed to be easily serviced in the operatory. The syringe parts subject to wear under normal use are provided in a syringe repair kit which can be ordered from your authorized A-dec dealer.

Proper care and maintenance of your A-dec Syringe is **critical** in ensuring the safety of your patients and the reliability of this precision instrument.

Using A-dec Silicone Lubricant

Use only A-dec Silicone Lubricant when performing maintenance on your A-dec syringe.

The O-rings used in the syringe head and syringe tip retainer assembly are a compound (Ethylene Propylene) which best resists the autoclave process.

The use of petroleum based lubricants (jellies, creams, or lotions) will cause the O-rings in the syringe to swell and/or deteriorate, resulting in syringe malfunction or failure.

Using A-dec Replacement Parts

Use only A-dec replacement parts when performing maintenance on your A-dec syringe.

A-dec replacement parts have been precisely designed for your A-dec syringe and ensure that the syringe will function properly.

Maintaining Syringe Tip Retainer Assemblies

As a means of preventive maintenance, A-dec recommends replacing the two internal O-rings and the small O-rings in the syringe tip retainer assembly at least once a year *(see Figure 17)*. Please lubricate the O-rings with A-dec silicone lubricant at the time of replacement.

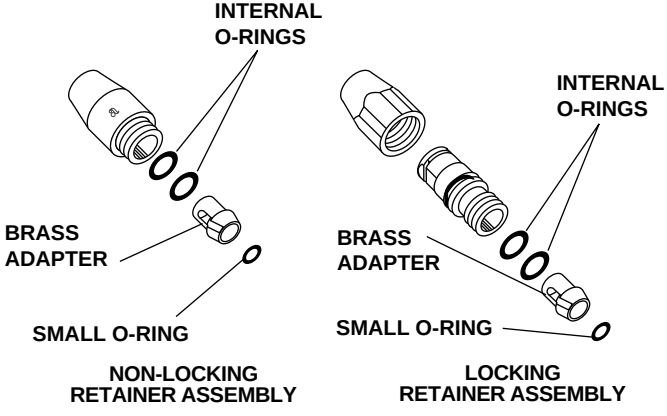

Figure 17. Syringe Nut Retainer Assemblies

Troubleshooting

The syringe is leaking from a button.

Replace the valve assembly.

The syringe is leaking from the end of the tip while the syringe is not in use.

The valve assembly is damaged and must be replaced.

There is a spray of water from the tip when the air button is pressed.

1. Is the A-dec syringe tip properly installed?

   YES: Install a different syringe tip and test the syringe. If this solves the problem, discard the damaged syringe tip. If there is still a momentary spray of water from the tip when the air button is pressed, replace the small O-ring in the brass adapter section of the syringe nut retainer assembly *(see Figure 17 on page 21)* or replace the syringe nut retainer assembly.

   NO: Ensure that the syringe tip is properly installed, then retest the syringe.

There is leakage from the syringe handle.

1. Is the syringe tightly connected to the syringe tubing?

   YES: The O-rings on the terminal connector tubes (inside the syringe handle) are damaged and must be replaced *(see Figure 18)*.

   NO: Ensure that the syringe and the syringe tubing connector are tightly screwed together and retest the syringe.

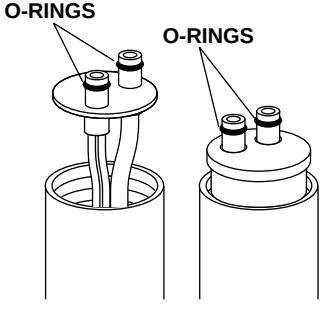

Figure 18. Syringe Terminal Assemblies

Air is leaking around the syringe tip at the top of the syringe tip retainer assembly.

1. Is the A-dec syringe tip damaged?

   YES: Install a different syringe tip and test the syringe. If this solves the problem, discard the damaged syringe tip.

   NO: The two syringe tip retainer assembly internal O-rings are damaged *(see Figure 17 on page 21)*. Replace the O-rings or the syringe tip retainer assembly.

Water is leaking around the base of the syringe tip retainer assembly.

1. Is the syringe tip retainer assembly tightly installed in the syringe head?

   YES: The small O-ring in the brass adapter section of the syringe tip retainer assembly has failed *(see Figure 17 on page 21)*. Replace the O-ring or replace the syringe tip retainer assembly.

   NO: Tighten the syringe tip retainer assembly and retest the syringe.

The syringe tip is difficult to install.

1. Has a petroleum based lubricant been used to lubricate the syringe tip retainer assembly internal O-rings *(see Figure 17 on page 21)*?

   YES: The two syringe tip retainer assembly internal O-rings are damaged. Replace the O-rings or the syringe tip retainer assembly.

   NO: The syringe tip retainer assembly has been damaged and must be replaced. ***Do not use the syringe until the syringe tip retainer assembly has been replaced.***

The syringe tip is too easily removed from the syringe nut retainer assembly.

1. Are you using an A-dec syringe tip? Ensure that syringe tip being used is an A-dec syringe tip *(see Figure 3 on page 5)*.

   YES: The two syringe tip retainer assembly internal O-rings have been damaged or worn *(see Figure 17 on page 21)*. Replace the O-rings or the syringe tip retainer assembly.

   NO: Properly install an A-dec syringe tip and retest the syringe.

Adjustments and Specifications

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Syringe Air and Water
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Restricting Tip Rotation .....page 14
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Inline Low Voltage Water Heater .....page 16

Maintenance

Syringe Tip Asepsis .....page 18
Sterilization .....page 19
Troubleshooting.....page 21

Specifications are subject to change without notice.

Identification of Symbols

Recognized by Underwriters Laboratories Inc. ® with respect to electric shock, fire and mechanical hazards only in accordance with UL 2601-1. Recognized with respect to electric shock, fire, mechanical and other specified hazards only in accordance with CAN/CSA C22.2, No. 601.1.

UL listed to US (UL 544) and Canadian (CAN/CSA C22.2, No. 125) safety standards.

Classified by Underwriters Laboratories Inc. ® with respect to electric shock, fire and mechanical hazards only in accordance with UL 2601-1. Classified with respect to electric shock, fire, mechanical and other specified hazards only in accordance with CAN/CSA C22.2, No. 601.1.

Conforms to European Directives *(refer to Declaration Statement)*

Protective earth (ground).

Functional earth (ground).

Attention, consult accompanying documents.

TYPE B APPLIED PART.

CLASS II EQUIPMENT.

Classification of Equipment (EN 60601-1)

Type of shock protection:
CLASS I EQUIPMENT
(Dental Chairs, Dental Lights, & Power Supplies)
CLASS II EQUIPMENT
(Chair, Wall, & Cart Mounted Delivery Systems)

Degree of shock protection:
TYPE B APPLIED PART (All products)

Degree of protection against water ingress:
ORDINARY EQUIPMENT (All products)

Mode of operation
CONTINUOUS OPERATION
(All models except Dental Chairs)

Mode of operation
CONTINUOUS OPERATION
WITH INTERMITTENT LOADING (Dental Chairs)

a-dec

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